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Slowing – but still growing



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We see global growth slowing as the expansion enters its final stage. The slowdown comes as the US economy becomes a drag rather than a driver. It is driven by elevated uncertainty around policy plans, the tech rivalry between the US and China and tighter financial conditions. Trade activity, business sentiment and investment plans have softened. The fading US fiscal boost should be offset by heftier stimulus in China and Europe. Slower growth and modest inflation allow central banks to pause policy normalisation, in our view. The risk of a US recession remains limited but climbs over time. We believe financial markets are being overly pessimistic, having already priced in most of this downside risk. Highlights:

- Recession fears are overblown, in our view. Financial vulnerabilities are low and major central banks do not need to respond aggressively to inflation pressures. This gives them flexibility to maintain easy monetary conditions.
- The boost from US fiscal stimulus is subsiding, but stimulus measures are ramping up in China and Europe. Historically low long-term interest rates allow governments to expand borrowing. Yet stimulus may now be less effective in stoking demand.
- Slower growth, modest inflation and tighter financial conditions will likely persuade the Federal Reserve to avoid further interest rate rises until the second half of the year, in our view. We see the European Central Bank waiting on a first rate rise until 2020 and believe China's policymakers will ease financial conditions in several ways.
- Risks to growth include tighter financial conditions and rising financial vulnerabilities, increasing the chance of a US downturn. China may struggle to offset the economic fallout from the trade war, while Europe is vulnerable to global trade disruptions.

Growth GPS: A slowdown ahead

The GPS hints at firm G7 growth, yet we expect a material deceleration due to trade tensions, an intensifying US-China tech rivalry and tighter financial conditions.

Economic snapshot

BlackRock Growth GPS vs. G7 consensus, 2015-2019



Sources: BlackRock Investment Institute, with data from Bloomberg and Consensus Economics, January 2019. Notes: The GPS in green shows where the 12-month consensus forecast may stand in three months' time for G7 economies. The blue line shows the current 12-month economic consensus forecast as measured by Consensus Economics. There is no guarantee any forecasts made will come to pass.

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Synchronised slowdown

Economic growth is key for the financial market outlook, and we expect growth to slow materially as the post-crisis recovery enters its late stage. The slowdown is likely to be led by the US but should partly be cushioned by more steady growth in Europe and emerging markets, notably China. Behind the deceleration: tighter financial conditions, the elevated uncertainty around current policy plans and an intensifying tech rivalry between the US and China – already hobbling trade and investment intentions. Fading fiscal stimulus will likely also hinder US growth. More modest growth and subdued inflation allow for a slower pace of monetary policy normalisation.

The Federal Reserve will likely hold interest rates steady for a while, probably until the second half of this year. The European Central Bank may not raise rates at all before 2020. China’s policymakers are seeking to boost the economy through a range of channels, including tax cuts, injecting fresh liquidity via cuts to bank reserve requirements while relaxing macro-prudential measures aimed at limiting financial leverage. The Bank of Japan may keep its bold policy of yield-curve control in place. Risks to consensus economic forecasts still tilt to the downside, as our Growth GPS shows. Yet we believe financial markets are overly pessimistic in their pricing of recession risks. This creates some potential upside for risk assets if these fears are not realised in our base case.

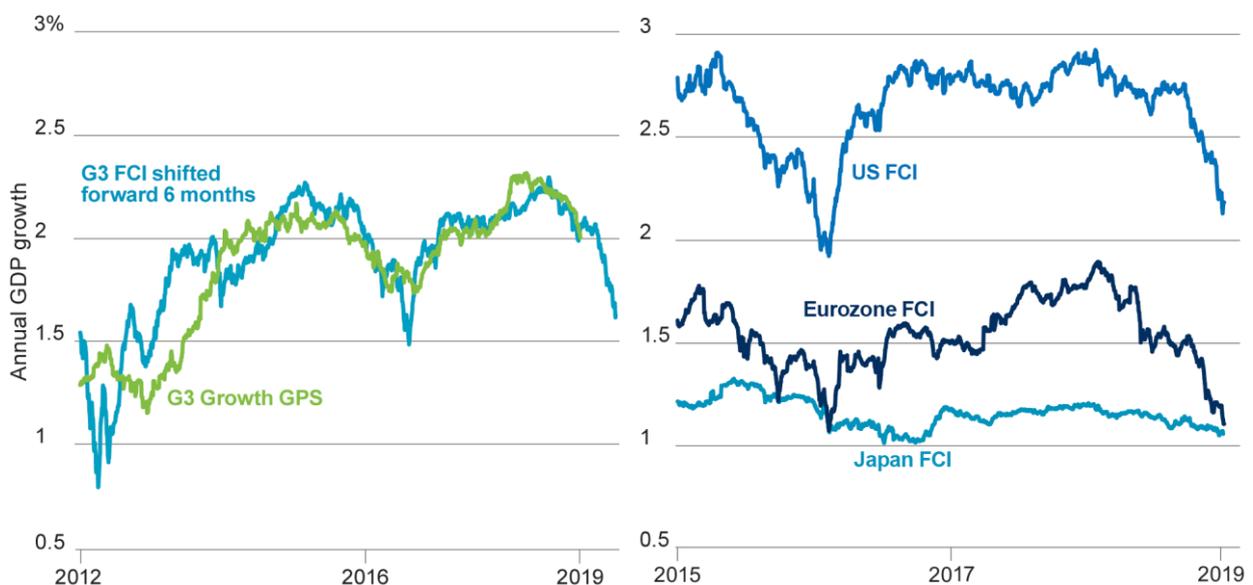
This year’s macro story is more about a synchronised global slowdown – with growth rates converging towards long-term trend levels – than actual recession risks, in our view. Our expectation for a marked slowdown is underpinned by our new Financial Conditions Indicator (FCI) for the US, the eurozone and Japan.

Financial conditions are difficult to measure. Many commonly used gauges – which include daily gyrations of interest rates, market volatility and asset valuations – can give misleading results, we think. For example: If rising US growth expectations were to push up yields and the US dollar, some widely used FCIs would incorrectly conclude that financial conditions are tightening. They tend to predict that the growth outlook is deteriorating – even when the exact opposite is probably true.

Our new FCI seeks to avoid this problem by stripping out the impact of economic growth on asset prices. It does this for past market data – as most FCIs do – but also for future market expectations. Historically, moves in our FCI have led the BlackRock Growth GPS by about six months. See our December publication [A tale of tighter conditions](#). Financial conditions suggest there are material downside risks to our Growth GPS for G3 economies over the coming quarters. Yet this slowdown takes growth back to trend-like levels and is nowhere near levels that would be consistent with a recession. See the *Tighter times* chart. Consensus economic forecasts have been slow to reflect this deterioration.

Tighter times

The BlackRock G3 Growth GPS and FCI with individual FCIs for the US, eurozone and Japan, 2012-2019



Sources: BlackRock Investment Institute, with data from Bloomberg, January 2019. Notes: In the chart on the left, the BlackRock Growth GPS (green line) shows where the 12-month forward consensus GDP forecast may stand in three months’ time. The blue line shows the rate of GDP growth implied by our financial conditions indicator (FCI), based on its historical relationship with our Growth GPS. The FCI is moved forward six months, as it has historically led changes in the Growth GPS. The chart on the right shows our FCI for the US, eurozone and Japan. Forward-looking estimates may not come to pass.

US: No longer the growth driver

The US economy was already set to slow materially as the expansion shifts into the late cycle-stage. Previous bouts of fiscal and monetary policy stimulus are dissipating as the impact of protracted trade tensions is biting back at home - especially on the business investment cycle and manufacturing activity. By contrast, the US consumer is showing signs of resilience.

The two factors that drove US outperformance in 2018 - fiscal stimulus and business investment - are set to fade this year, in our view. The growth kick from fiscal stimulus - an unusual late-cycle booster via corporate tax cuts and greater government spending - has likely peaked and should fade over the course of 2019. See the *Fading stimulus* chart on the right.

Investment spending also looks set to moderate after a spurt of strength in the past two years. Business investment has mostly caught up with levels implied by its relationship with long-run US growth, filling the gap that opened up during the 2015-2016 oil and commodity shock. See the implied investment and investment lines in the top *Cooling capex* chart. As a result, investment has settled back at trend growth levels. See the bars in the bottom chart.

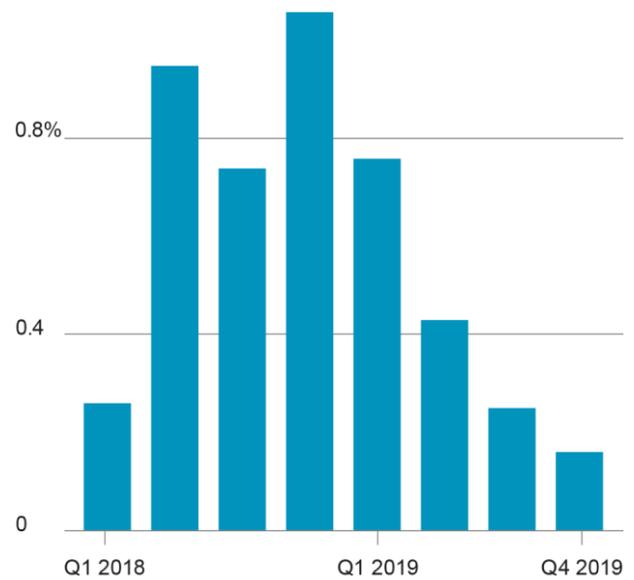
Greater uncertainty around protectionist trade policies and supply chain relocations, as well as much tighter financial conditions, will further temper the capital spending plans of US corporates. Another drag: the likely compression of US corporate profit margins from current historically high levels as wage costs rise and pricing power remains tepid. Our analysis of capital spending intentions - the nowcast in the bottom chart - suggests that capex growth slowed sharply at the end of 2018 and has now started to stabilise at subdued levels. This suggests modest capex growth ahead.

Buoyant US households should help offset some of the soft patch in business investment. Personal consumption should keep growing at robust levels. The US labour market is strong. Rising wage growth should reinforce purchasing power at a time when consumer confidence is high. Household balance sheets are healthy and are still improving thanks to ongoing savings, a stark contrast with the late-cycle period of the previous expansion.

We see US housing investment stabilising this year. Higher mortgage and home prices curbed purchases last year, making housing a notable underperformer while overall GDP growth accelerated. We see housing activity as being less of a drag as interest rates steady at higher levels and slower-moving fundamentals - namely the job market driving solid income growth - underpin household formation.

Fading stimulus

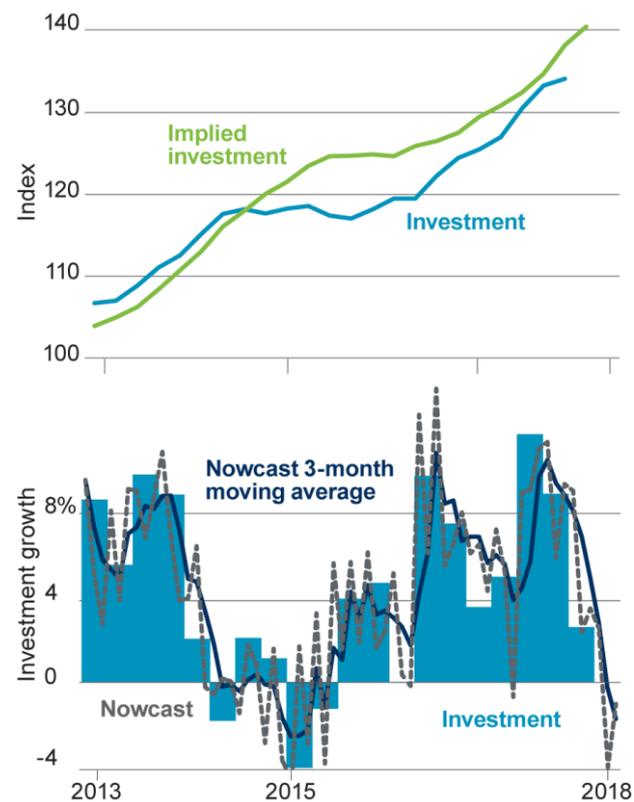
Impact of fiscal stimulus on US GDP growth, 2018-2019



Sources: BlackRock Investment Institute, with data from Thomson Reuters, January 2019. Notes: This chart shows the estimated impact of US fiscal stimulus on quarterly US GDP growth measured at an annualised rate. Forward-looking estimates may not come to pass.

Cooling capex

US business investment, 2013-2019



Sources: BlackRock Investment Institute, US Bureau of Economic Analysis and regional Federal Reserve banks, with data from Thomson Reuters, January 2019. Notes: The top chart shows the actual level of real US business investment (blue line) and the hypothetical level that would be consistent with long-run rates of GDP growth (green line). We use an accelerator model to derive the level of implied investment and also factor in measures of market and economic uncertainty. Bottom chart: The blue area is the actual quarterly pace of business investment growth as reported in national accounts. The lines are more timely monthly indicators of capex growth constructed from the "capex intentions" in Fed manufacturing surveys. The solid line is the three-month moving average of the dotted line.

Late cycle blues

The US slowdown we expect in 2019 comes in the context of an economy that is transitioning this year into a late phase of the business cycle, the final phase before a downturn. This tempers our assessment of the remaining room to run in this expansion, even though we think that recession risks in 2019 are limited. The next recession may still be years away as we argued in our May 2017 Global macro outlook [Benchmarking deflation](#) - but perhaps just a few, not several. See the orange band in the chart on the right below and our economic cycles [interactive](#) for a view of how post-war cycles have differed.

We arrive at our assessment of where the US economy is in the business cycle via a statistical technique known as clustering analysis. This exercise is based on the idea that groups of economic variables should exhibit some identifiably different patterns at different business cycle stages. The analysis takes as inputs a wide range of US economic variables (covering measures of growth, slack, inflation pressure, monetary policy stance, and leverage) and aims to group periods of time into four stages: early cycle, mid cycle, late cycle and recession. See the *I see you late cycle* chart.

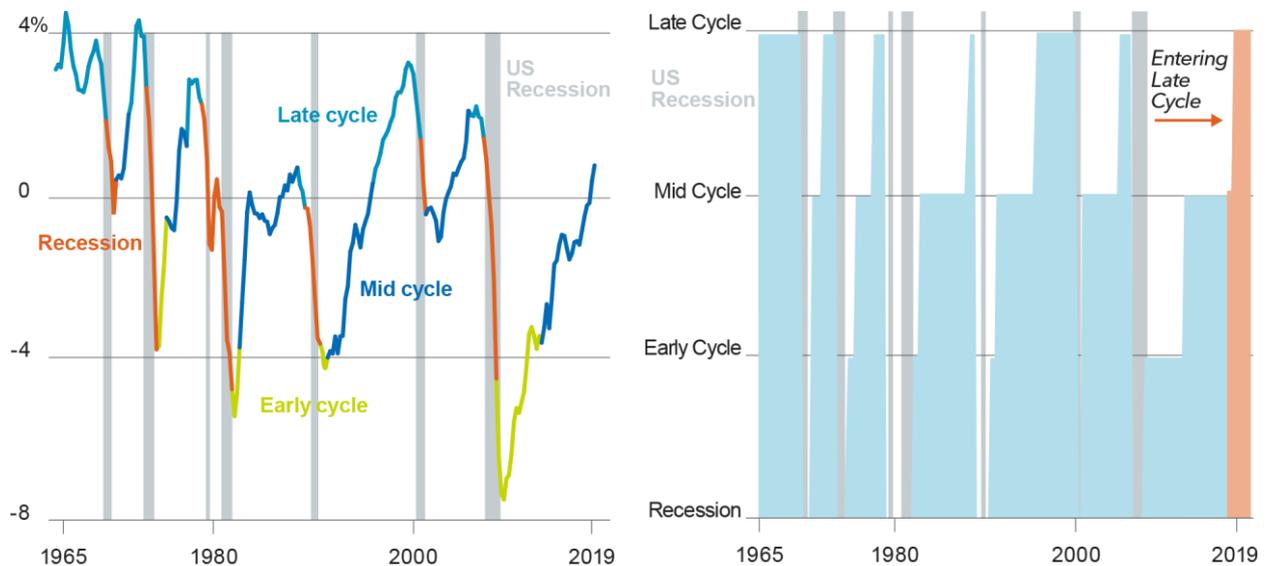
A recession is characterised by contraction of output, an increasing degree of slack and falling inflationary pressures. In early and mid stages of the expansion, growth bounces back sharply. Yet slack lingers, keeping the output gap negative and inflation below central bank targets. Monetary policy tends to be accommodative as a result. Late-cycle phases tend to see economic overheating with the output gap running above zero, monetary policy approaching a restrictive stance and growth starting to slow.

Our work suggests the US economy was already approaching the late-cycle phase last year. On the current trajectory, it will enter the late-cycle phase during the first half of 2019 as labour market slack and the output gap suggest greater overheating. Historically, late cycle phases of the expansion have lasted roughly six quarters - yet this number tells us little given how cycles have differed. The late-cycle period ranges from just under a year prior to the early 1990s recession to nearly five years before the early 2000s recession.

The key question is how long this late-cycle phase might last. The tipping point that pushes an expansion into recession tends to be triggered by a central bank tightening policy too much - perhaps due to hotter inflation - or a build-up of financial vulnerabilities. We define financial vulnerabilities as a large enough rise of financial risks in sectors of the economy that can cause knock-on damage to economic activity - the household, corporate and financial sectors. Greater financial vulnerabilities make an economy more susceptible to a downturn - and even a full-blown financial crisis. As financial conditions keep tightening, sectors with greater vulnerabilities become more exposed to shocks. That makes it critical to identify which financial sectors and asset classes are the most vulnerable. See page 9 for a more detailed discussion of the risk of a recession in the coming years.

I see you late cycle

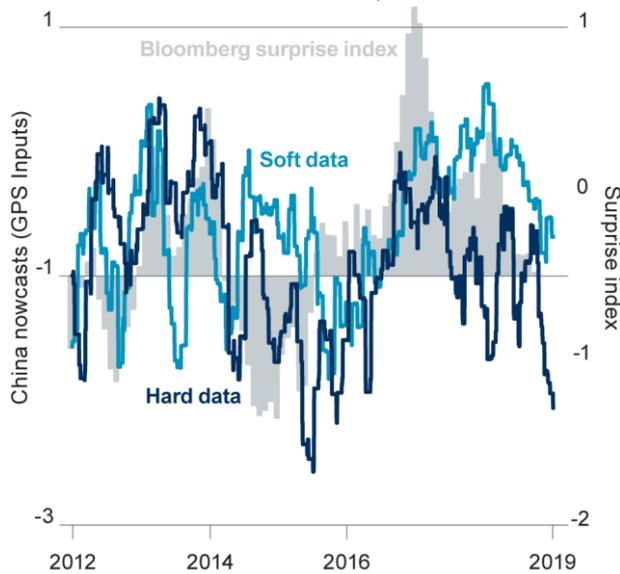
US output gap and stages of the US business cycle, 1965-2019



Sources: BlackRock Investment Institute and the US National Bureau of Economic Research, with data from Thomson Reuters, January 2019. Notes: The chart on the left shows an estimate of the US output gap (GDP as a percentage of potential GDP). We have classified different time periods as belonging to certain stages of the business cycle. The classification of the stage is done via a "cluster analysis" that groups together time periods where economic series have behaved in similar ways. The chart on the right shows our classification of the US business cycle by its stages using our clustering methodology. Measures of economic slack, wage and price inflation, the stance of monetary policy and the growth of leverage in the private sector are used in this analysis. Forward-looking estimates may not come to pass.

Not-so-soft surprises in China...

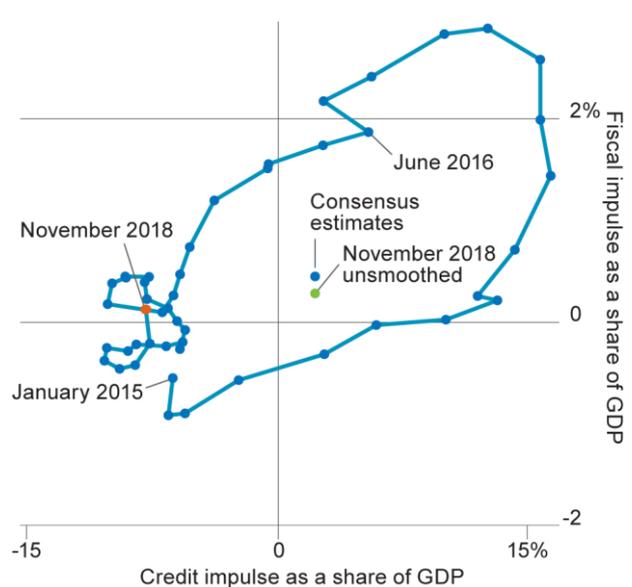
China GPS nowcast and data surprises, 2012-2019



Sources: BlackRock Investment Institute, with data from Bloomberg, January 2019.
 Notes: The blue lines show the impact of economic data on the China Growth GPS. The soft data includes measures of sentiment, such as business surveys. The hard data includes measures of real activity, such as industrial production and retail sales. The grey area shows the Bloomberg Growth Surprise Index for China.

...cushioned by renewed stimulus

China's fiscal and monetary stimulus, 2015-2018



Sources: BlackRock Investment Institute, National Bureau of Statistics of China and the People's Bank of China, with data from Thomson Reuters, January 2019.
 Notes: The fiscal impulse is defined as the 12-month change in the annual fiscal deficit as a percentage of GDP. The fiscal deficit includes spending from China's general government fund. The credit impulse is defined as the 12-month change in the rate of broad credit growth as a share of GDP.

Chinese stimulus returns

The Chinese economy looks likely to regain its footing in the first half of 2019 thanks to a material policy easing already underway. A modest growth reacceleration would follow a surprisingly sharp slowdown in late 2018, helping temper the economy's downtrend. A more gradual downtrend in China should underpin growth in other emerging markets. The IMF projects that China will account for about a third of global growth in 2019, compared to roughly one tenth from the US. In Europe, full-year GDP growth should settle at slightly lower levels this year after political turbulences plus a range of temporary setbacks and one-off factors dented activity last year. All in all, we see the rest of the world helping offset the fallout from the US slowdown.

In China, the soft data (business surveys) painted a healthy picture in late 2018, while the hard data (industrial production and retail sales) pointed to worrying weakness. Incoming data have generally disappointed market expectations. See the data surprise index and the dark line in the *Not-so-soft surprises in China* chart. Growth has slowed for two main reasons: policy-led constraints to clamp down on excessive credit expansion (more on page 7) and greater uncertainty arising from the US-China trade dispute, especially for China's key industrial sector.

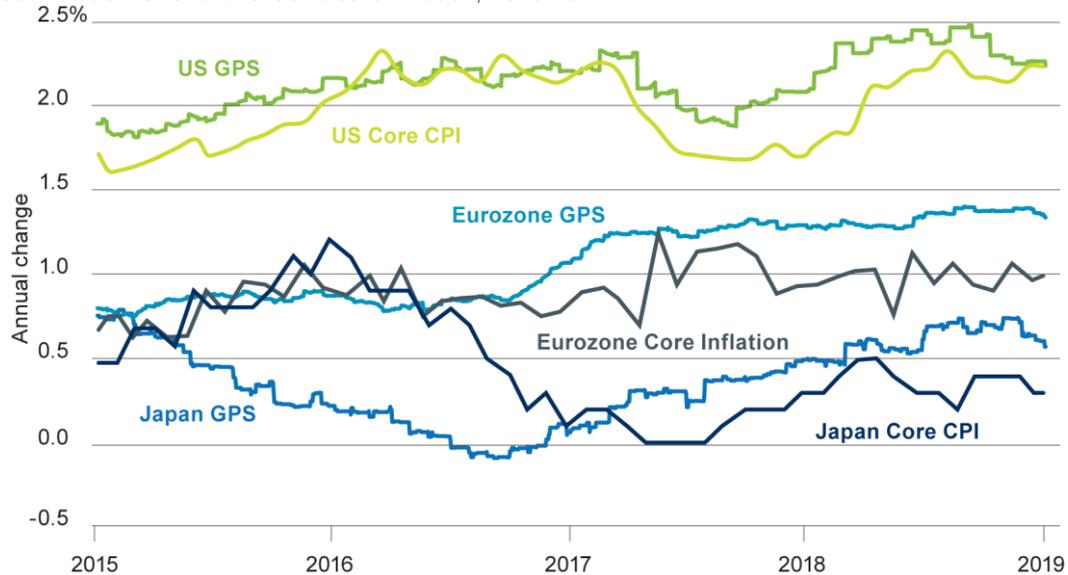
The auto sector is a notable weak spot: sales have fallen off a cliff over the past year. Factors that had juiced auto sales have subsided and taken a toll on demand: authorities have cracked down on peer-to-peer lending, and the wealth effect from the previous surge in property prices has worn off. Households are expecting the government to reintroduce rebates on auto purchases, further cooling buying. The latest data point to some stabilisation in auto sales.

Policymakers in China have already started to reverse course and moved towards a material policy easing. We are likely to see officials balance efforts to provide economic stimulus and also limit financial leverage, especially among state-owned enterprises, over coming months. There are also plans to help the consumer with a series of tax cuts, as well as the traditional stimulus measures of infrastructure spending and housing market support.

The chart on the right compares the 12-month changes in China's fiscal deficit and credit growth - the fiscal and credit impulse - as a percentage of GDP. We show the 12-month changes in order to smooth through monthly volatility. The green dot depicts the latest data based on a six-month change to indicate where our more smoothed measure could be heading. We are already seeing a return of support from both fiscal and monetary policy.

Muted inflation pressures

BlackRock Inflation GPS for the G3 vs core inflation, 2015-2019



Sources: BlackRock Investment Institute, with data from the US Bureau of Labor Statistics, Japan's MIC, Eurostat and Thomson Reuters, January 2019. Notes: the inflation GPS lines show where core consumer price inflation may stand in six months' time in each economy. The other lines show actual inflation as represented by the core Consumer Price Index in the US and Japan, and the core Harmonised Index of Consumer Prices in the eurozone. Forward-looking estimates may not come to pass.

Limited inflation pressures

Inflation rates are likely to stay subdued despite a further erosion of excess capacity globally. The absence of meaningful inflationary pressures gives central banks flexibility on their monetary policy normalisation.

Headline inflation is set to moderate globally courtesy of softer commodity and oil prices. Underlying core inflation is likely to stay well below central bank targets in the eurozone and Japan, while in the US it is hovering near target with little sign of acceleration.

Wage inflation is picking up on both sides of the Atlantic as labour markets keep tightening. Yet wage growth overall remains below historical patterns. Wages also look set to stay below or close to the neutral wage inflation thresholds. These thresholds are defined by the trend of labour productivity, as well as the respective inflation targets of the central bank. Finally, wage inflation may already be near the peaks of this cycle, in our view, given how growth should drift back down towards trend levels and inflation moderates.

Another factor limiting inflation pressures: corporate pricing power appears somewhat limited despite considerable regional and some sectoral variations. For a number of structural and cyclical reasons, US corporates are likely to have more pricing power than their peers in Europe or Asia. But rising unit labour costs, higher trade tariffs, increasing financing costs and rebounding commodity input prices could combine to put fresh pressure on corporate profit margins.

Over the past few decades, technological change and globalisation have lifted profit margins across developed market countries, causing wage incomes to stagnate and income inequality to increase. Looking ahead, profit margins might be where the strain is felt as trade tensions and cost pressures rise. Together with slower revenue growth, we believe this could hint at further corporate earnings disappointments.

Europe's tricky spot

The European economy requires ongoing monetary policy support given the marked slowdown in economic activity in the course of last year and still very subdued underlying inflation. The eurozone's more open economy felt the deceleration in global trade growth more acutely. Several one-off factors also weighed on activity, including new global car emission standards and weather-related transport bottlenecks, wider intra-eurozone government bond spreads after the Italian election, and the recent public unrest in France.

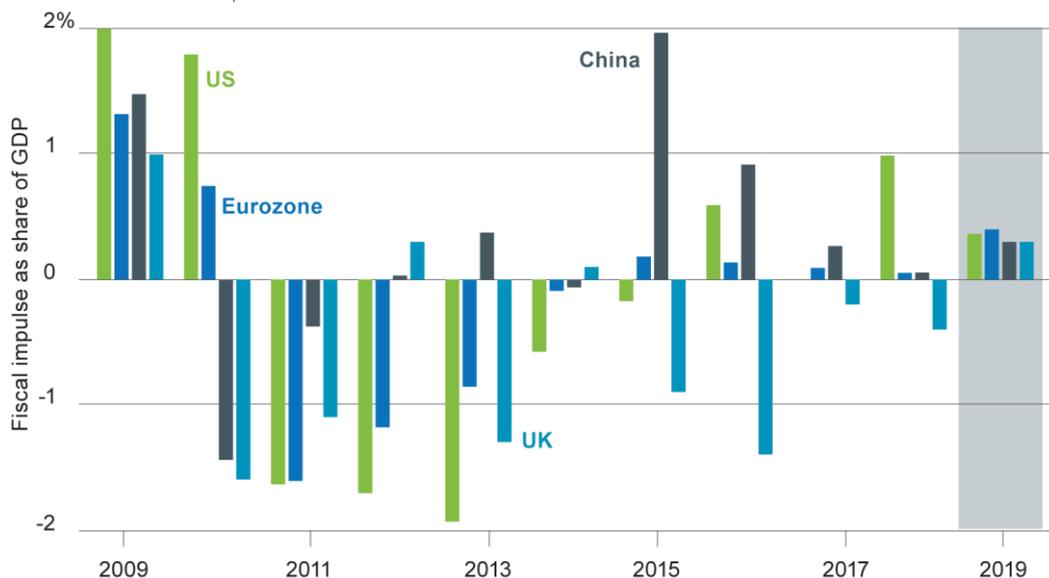
Tighter financial conditions could push eurozone GDP growth marginally below trend if they persist, we estimate. Incoming data already suggest that Germany, Europe's largest economy, stagnated in the second half of 2018. Eurozone growth has come to a standstill in late 2018. Still, we see the risk of a recession as remote given the ECB's extra-easy policy, fresh fiscal stimulus and the lifting of the adverse one-offs. Yet markets might be rattled by the lack of policy levers to counter a new downturn. The main worry is probably less an actual recession than the fragmented political and financial landscape in which it would play out.

As US fiscal support wanes, other key regions are embarking on new fiscal easing. European countries easing fiscal policy - notably France and Italy - already face fiscal sustainability issues due to either persistent deficits or elevated debt levels. Global fiscal policy looks more expansionary in 2019, marking the loosest such stance since 2010. See the *Joint fiscal* support chart. But the impact of fiscal easing measures outside the US is less certain, partly because China is using large scale tax cuts for the first time.

Sustainability concerns could undermine the effectiveness of fiscal easing, especially against a backdrop of wider sovereign spreads and higher political tensions within the eurozone. The US debt trajectory, already well above its eurozone counterpart, is headed higher, while the eurozone's trajectory is still headed sideways if not down slightly. On the flip side, we have argued that equilibrium interest rates will stay structurally low for some time to come, anchoring bond yields and boosting equity valuations. Low equilibrium interest rates allow fiscal policy to become an increasingly important policy tool. Government funding costs are likely to stay well below nominal GDP growth, creating fiscal space.

Joint fiscal support

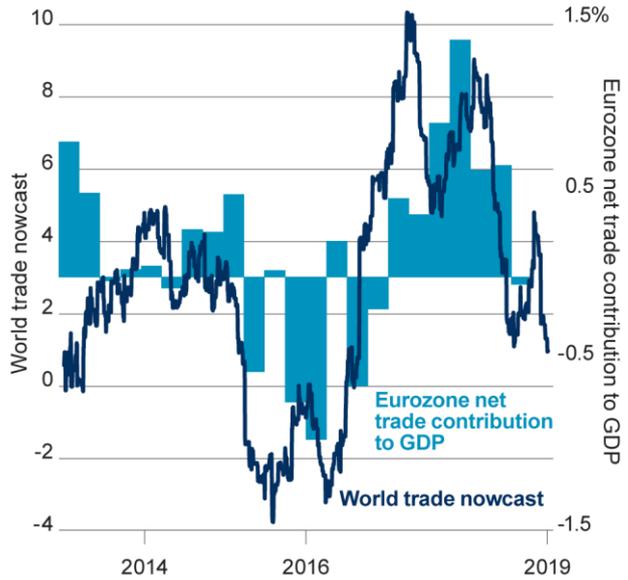
Select G7 and China fiscal impulses, 2009-2019



Sources: BlackRock Investment Institute, IMF, European Commission and UK Office of Budget Responsibility, with data from Thomson Reuters, January 2019. Notes: This chart shows estimates of the impact of fiscal policy on GDP growth across the economies over time. The estimates are derived by taking the annual change in the cyclically-adjusted primary fiscal deficit of each region as a percentage of GDP. Forward-looking estimates may not come to pass.

Souring trade activity

Eurozone trade vs BlackRock trade nowcast, 2013-2019



Sources: BlackRock Investment Institute and Eurostat, with data from Thomson Reuters, January 2019. Notes: This chart shows our world trade nowcast and the contribution of net exports to annual eurozone GDP growth. The nowcast uses principal component analysis based on 50 indicators to track global trade activity.

Keeping it easy

Globally, the economic policy mix remains supportive of economic growth and risk assets. US policy has become less expansionary as we have spelled out due to past Fed rate increases, the Fed balance sheet wind down and the fading of fiscal easing. Yet in the rest of the world the policy stance is becoming more expansionary. The lack of inflationary pressures gives central banks breathing room to be loose on policy and adopt a wait-and-see approach to policy normalisation. Structurally low interest rates, thanks to abundant global savings, also give governments more space to use fiscal policy.

The Fed has become data-dependent and, more recently, market-dependent. The US central bank seems set for an extended pause in its rate hike cycle. In our view, the Fed will only nudge up rates once more in 2019 to 2.50-2.75%, probably in September. Yet skittish markets have run in the other direction and have flirted with pricing in the chance of a rate cut this year. Markets will likely initially read a Fed pause as a sign that rates have peaked for the cycle. Brace for higher uncertainty and market volatility if the Fed hits the pause button. We also believe the Fed will review its balance sheet normalisation strategy this year, partly given the recent dislocations in credit markets. We see the potential for the Fed to phase out its process of shrinking its balance sheet, perhaps as reserves reach a more normal level. For more see [Beware of the Q Trap](#) from August 2018.

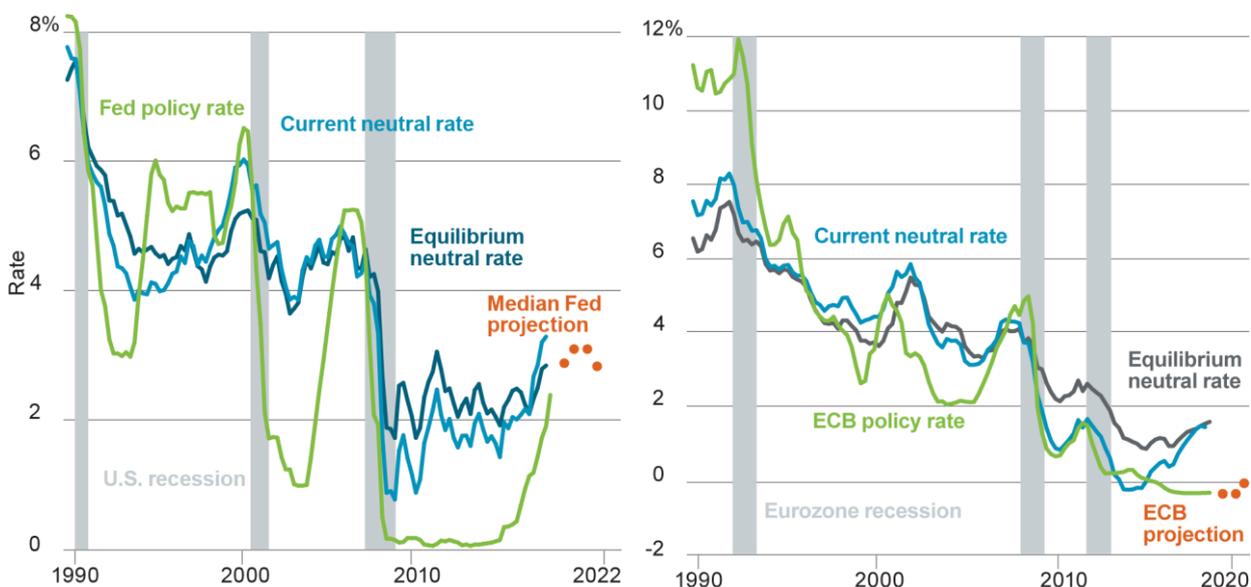
Easy does it – that’s the motto for other major central banks, in our view. Outside the US, policy rates will likely stay well below neutral levels – those that neither stimulate nor restrict an economy. See the *Supportive rates* chart below. The ECB, for one, is unlikely to budge on interest rates in 2019. Its focus will instead zero in on the reinvestment of fixed income assets after wrapping up its quantitative easing in December. We see the ECB as likely to offer another long-term refinancing operation to keep liquidity flowing to banks and the economy. Beyond the first quarter, the ECB faces extra uncertainty this year: a new leader will take the reins from President Mario Draghi in November. It will be key for policymakers to firmly anchor market expectations of the ECB’s policy stance during this transition, in our view. The Bank of England’s policy path will depend on the outcome of Brexit negotiations. The BoE is likely to keep policy steady until there is more certainty. In the event of an orderly Brexit, market pricing is likely to shift towards further interest rate increases.

The People’s Bank of China is likely to ease materially through several channels to support the domestic economy. We expect it to do so by leaning primarily on liquidity provisions, rather than multiple interest rate cuts, to avoid stoking capital outflows and putting pressure on the yuan exchange rate. It will also relax some of the clampdown on credit and leverage while still keeping state-owned enterprises on the hook to reduce debt.

The Bank of Japan is staying the course on its bold yield-curve control policy in the face of a number wildcards, including an unexpected contraction in third quarter GDP, a sharp yen surge in early January and a planned increase in the retail sales tax later this year. The BoJ is doing so despite rising concerns about the negative side effects of its ultra-loose policy on the financial system, namely bank profitability.

Supportive rates

Fed and ECB policy rates vs current and equilibrium neutral rates, 1990-2022



Sources: BlackRock Investment Institute, the Federal Reserve, NBER, Consensus Economics and the ECB, with data from Thomson Reuters, January 2019. Notes: The left chart shows the Fed policy rate, our estimates of the equilibrium and current neutral rates, and the median Fed projection from the summary of economic projections (December 2018). The right chart shows the ECB policy rate, ECB staff projections and our estimate of the current and equilibrium neutral rates. The neutral rate estimates are based on a model from a July 2018 [ECB working paper](#). This model takes the financial cycle into account. Forward-looking estimates may not come to pass.

Risks on the horizon

Risks to the economic outlook are tilted to the downside. Economic activity data are mostly undershooting expectations. A combination of rapidly tightening financial conditions and gradually rising financial vulnerabilities could cause a sharper slowdown in the US, up to and including the onset of a recession. China might also struggle to cushion its economy against the fallout from trade tensions as companies reorient their supply chains and technology is increasingly restricted. Europe's escalating political tensions may spark bond market dislocations, hobbling banks that remain the weakest link in the eurozone.

Politics will likely keep disrupting the macro backdrop in 2019. Trade tensions could take a larger toll on international trade growth, business confidence and market sentiment. Fragmentation in international trade flows, cross-border finance and global technology solutions could deepen further, even with a temporary reprieve between the US and China. The political spectrum across major economies has become more divided, as seen with the protests in France. European parliamentary elections in May will likely result in further gains for non-centrist protest parties.

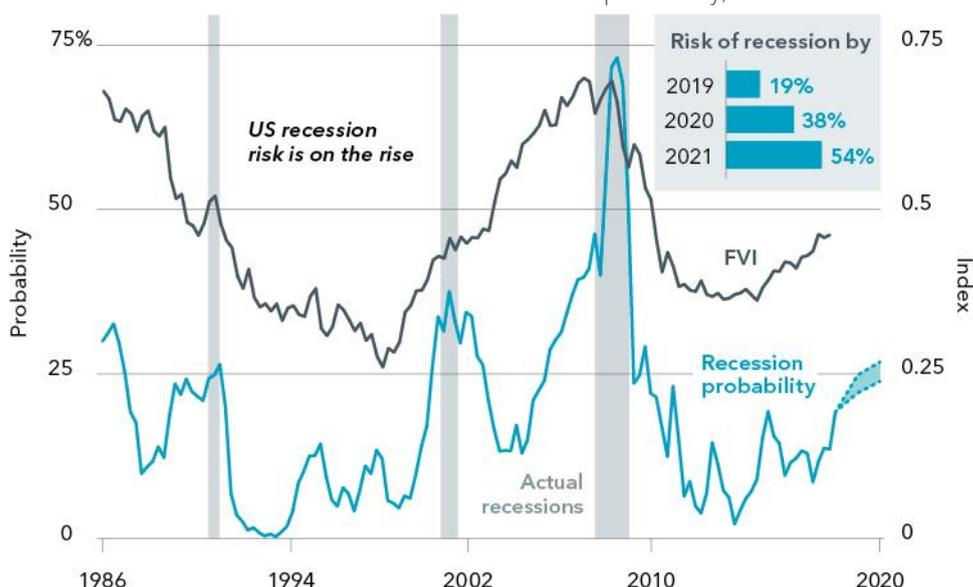
Yet our metrics show that financial markets have priced these downside risks more than fully: the equity market slide seen so far would be consistent with a much steeper falloff in growth. Money markets have already flirted with pricing in Fed rate cuts, investors are nervous about the flat yield curve's recession signal while credit spreads widened like it's the end of the credit cycle. Risk assets have already started to recover – and may recover further if the worst-case scenario fails to materialise.

The length of the late-cycle phase depends on whether central banks are forced to tighten policy sharply to rein in inflation pressures or whether financial vulnerabilities rise to dangerous levels. We are currently more concerned about the latter. Easy financial conditions can lead to excessive risk-taking and the build-up of financial vulnerabilities. By creating financial conditions that are easy, accommodative monetary policy – as well as more lenient financial regulation and supervision – can lead to a greater vulnerabilities and threaten financial stability.

We introduce a new gauge – the Financial Vulnerabilities Indicator (FVI) – to assess the probability of a US downturn. Our estimate of recession probability incorporates our new FCI and FVI. See the *Guesstimating recession risks* chart. Financial vulnerabilities soared to 30-year highs before the 2007-2008 global financial crisis. With the exception of the 1990 recession, we find that financial vulnerabilities build before a recession and then fall as vulnerabilities unwind – typically via deleveraging – and financial conditions tighten. The FVI does not predict an imminent recession, but by the end of 2021 our estimates show that a recession in the following 12 months will be more likely than not. An eventual recession could be accentuated if central bank credibility is hampered by fears about the availability and the effectiveness of their tools. This is due to the limited room to cut interest rates compared with past cycles and the still sizeable central bank balance sheets – even in the US.

Guesstimating recession risks

The BlackRock Financial Vulnerabilities Indicator and US recession probability, 1986-2020



Sources: BlackRock Investment Institute, US BEA and NBER, with data from Thomson Reuters, January 2019. Notes: The chart shows the estimated four-quarter ahead probability of a US recession and our FVI. The recession probability is estimated by gauging the probability of that future growth – projecting a four-quarter average of GDP based on recent data trends – below a certain threshold. The probability is based on an adjusted distribution of historical GDP data relative to GDP, our FCI and our FVI. The threshold is consistent with growth rates seen during US recessions since 1985. The 2019 and 2020 probabilities (shaded blue) are based on a range of likely outcomes of financial conditions, financial vulnerabilities and growth. The inset chart shows the cumulative probability of being in a recession by the end of each year. The FVI is based on five sources of vulnerabilities: the financial sector, nonfinancial sector, sovereign debt, external vulnerabilities and asset valuations. The FVI is an aggregate measure of these sources of vulnerabilities whose extremes have historically been associated with periods of financial stress. Forward-looking estimates may not come to pass.

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